

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



29-MAR 2005



(43) International Publication Date
15 April 2004 (15.04.2004)

PCT

(10) International Publication Number
WO 2004/031250 A1

(51) International Patent Classification⁷: **C08F 210/00**,
210/02, 210/16

Charles, F. [US/US]; 119 Dewberry Drive, Lake Jackson,
TX 77566 (US).

(21) International Application Number:
PCT/US2003/030910

(74) Agent: **SPENCER, Lee**; The Dow Chemical Company,
Intellectual Property, B-1211, P.O. Box 1967, Midland, MI
48674 (US).

(22) International Filing Date: 1 October 2003 (01.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/415595 2 October 2002 (02.10.2002) US
60/424880 8 November 2002 (08.11.2002) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ,
DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, YU, ZA, ZM,
ZW.

(71) Applicant (*for all designated States except US*): **DOW
GLOBAL TECHNOLOGIES INC.** [US/US]; Washing-
ton Street, 1790 Building, Midland, MI 48674 (US).

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **KARJALA, Teresa**
[US/US]; 56 Mandevilla Court, Lake Jackson, TX 77566
(US). **YALVAC, Selim** [US/US]; 210 Teakwood, Lake
Jackson, TX 77566 (US). **KARJALA, Thomas** [US/US];
56 Mandevilla Court, Lake Jackson, TX 77566 (US).
VANDERLENDE, Daniel, D. [US/US]; 5003 Kingsland
Court, Sugar Land, TX 77479 (US). **KOLTHAMMER,**
Brian, W. , S. [CA/US]; 109 Rosewood, Lake Jackson,
TX 77566 (US). **STEVENS, James, C.** [US/US]; 2026
Pecan Trail Drive, Richmond, TX 77469 (US). **DIEHL,**

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: LIQUID AND GEL-LIKE LOW MOLECULAR WEIGHT ETHYLENE POLYMERS

(57) **Abstract:** The subject invention pertains to homogeneous liquid low molecular weight ethylene/alpha-olefin polymers having a number average molecular weight (Mn) as determined by gel permeation chromatography, of less than 25, 000, a total crystallinity, as measured by DSC, of less than 10 %, and a pour point, as measured by ASTM D97, of less than 50°C. The subject invention also pertains to homogeneous gel-like low molecular weight ethylene/alpha-olefin polymers having a number average molecular weight (Mn) as determined by gel permeation chromatography, of less than 25, 000, a total crystallinity, as measured by DSC, of less than 50%, and a pour point, as measured by ASTM D97, of less than 90°C.

WO 2004/031250 A1